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Pages: 3

Re: Application 10/707,242

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To: Sung H. Pak  
Art Unit 2874

Application 10/707,242

Igor V Touzov

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**Notice of Appeal**

(37CFR §1.113(c))

Examiner's final action fails to recognize fundamental distinction of instant invention from prior art, in particular Normandin's. The first claim of instant invention clearly states "nonlinear response with respect to amplitude of the distortion", whereas Normandin's primary claim states "two pulses" and "non-linear" behavior of "the waveguide of sum frequency". Normandin's nonlinear detector uses fundamental effect of second harmonic generation "(SHG)" that demands two "oppositely propagating" pulses, and nonlinear detector media uses "sum" of two "frequencies". Instant invention, on contrary, states nonlinear detection media that responds to amplitude of a single distortion.

The fact is that **amplitude of single distortion** and **sum frequency of two pulses** are fundamentally different bases. That is why examiner's statement about broadening of pending claims is inaccurate and exemplified transmission of laser pulses (3d paragraph of Detailed Action) is **not** within the scope of instant invention because prior art does not refer to nonlinear detector that can respond to amplitude of a single laser pulse, but instead uses "sum of frequencies".

In 4<sup>th</sup> paragraph Examiner addresses claim 18 of instant invention, yet he obviously discards the fact that "waveguide has ... nonlinear properties with respect to energy level". It is clear that "**energy level**" is synonym of amplitude or intensity, and it is fundamentally different from **sum of frequencies of two pulses**, because in order to have sum of frequencies there needs to be more than one pulse and each pulse should present alternating field of single frequency, whereas energy level requires only one pulse and does not put limitation on its composition. It is well known that detection of energy level is fundamentally different from detection of second harmonic generation "(SHG)".

In Response to Arguments Examiner states equivalency of claims of instant invention and prior art based on facts that both allow for quantum behavior and ultrashort laser pulses. This statement disregards the fact that amplitude/intensity/level is not quantum measure. It is the measure of collective behavior and not a characteristic of quantum entity such as frequency or wavelength. Although it is true that instant invention allows for use of lasers and short pulses, it treats them and detects them in fundamentally different way than any known prior art.

Examiner on page 4 of Response claims that "unidimensional or two- or three-dimensional propagation of distortions" was taught and anticipated in prior art. Although it is not clear which particular prior art is referred, ability to address/detect geometrically **continuous** range of locations is only cited by Normandin and only for case of fiber. It was clearly stated above how method of Normandin is different from instant invention. Case of **continuous surface** or **volume** was not mentioned in any of prior art references. In fact ability to address fixed number of predefined locations on a surface such as display device is fundamentally different from ability to address **continuum** of geometrical locations comprising the surface. Even in hypothetical case of a surface covered by closely packed rows of fibers wherein any location of said fiber can be addressed, the plurality of such locations comprise only infinitely small subset of locations comprising the surface.

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Based on above stated arguments of this appeal, I demand that final rejection on claims 1-18, 22-24 and 28 shall be considered as premature, and Examiner should review his last action.

Regards



Igor Touzov